

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Keith Fredlake on 25 Feb 2010.

The application has been amended as follows:

#### ***Amendment to the Claims***

- Claims 1, 13, 17 and 19 are amended as follows.

1. (Currently Amended) A method for functionalizing polysaccharides using a chemical source of free radicals, which forms stable radicals on a polysaccharide structure wherein at least one of the formed radicals reacts with a functionalized olefin, comprising:

a first step, wherein a free radical on a polysaccharide chain is formed, washing the reaction mixture of the first step containing the polysaccharide chain having a free radical with water and recovering said polysaccharide, and

a second step, wherein said radical reacts with an the functionalized olefin in the absence of the chemical source of free radicals a radical source; wherein

the polysaccharide is in the form of a fiber;

the amount of functional groups introduced in the polysaccharide is between  $10^{-3}$  and 2 mol olefin/eq anhydrous glucose; and the chemical source is Fenton's reagent.

13. (Currently Amended) A process for the preparation of functionalized polysaccharides or polymer fibers comprising:

a) forming stable radicals on a polysaccharide from a chemical free radical source wherein the chemical source is Fenton's reagent;

b) washing the reaction mixture of step a) containing the polysaccharide chain having a free radical with water and recovering said polysaccharide; and

bc) reacting, in the absence of the free radical source, an olefin containing a functional group with the stable radicals on the polysaccharide.

17. (Currently Amended) The method of claim 1, further comprising ~~washing the reaction mixture of the first step containing the polysaccharide chain having a free radical with water and~~ filtering the washed reaction mixture.

19. (Currently Amended) The method of claim 13, further comprising ~~washing the reaction mixture containing the stable radicals on the polysaccharide with water and~~ filtering the washed reaction mixture.

### **DETAILED ACTION**

This Office Action is responsive to Applicant's Amendment and Remarks, filed 3 Nov 2009, in which claim 1 is amended and new claims 16-19 are added.

This application is the national stage entry of PCT/EP03/02910, filed 20 Mar 2003; and claims benefit of foreign priority document EPO 02425172.0, filed 20 Mar 2002. The foreign priority document is in English.

Claims 1, 4-6, 10, 13 and 15-19 are allowed in view of the Examiner's Amendment detailed herein.

### ***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance:

### ***Rejections Withdrawn***

Applicant's Remarks, filed 3 Nov 2009, with respect to claims 1, 4-6, 10, 13 and 15 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement has been fully considered and is persuasive, as Applicant's remarks are persuasive that within the context of the instant invention as claimed the terms functionalized olefin and an olefin containing a functional group reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention.

This rejection has been **withdrawn**.

Applicant's Remarks, filed 3 Nov 2009, with respect to claims 1, 4-6, 10, 13 and 15 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement has been fully considered and is persuasive, as Applicant's remarks are persuasive that the specification detailing the lack of any change in the IR spectrum applies to the comparative run 1.1, not to runs 1.2 and 1.3, and therefore the specification provides working examples. Therefore the disclosure of van Dijk-Wolthuis et al. detailing the reaction of glycidyl methacrylate reacting with a polysaccharide such as dextran by a mechanism that does not involve a free radical formation step is not relevant in view of the disclosure of working examples.

This rejection has been **withdrawn**.

Applicant's Remarks, filed 3 Nov 2009, with respect to claims 1, 4-6, 10, 13 and 15-19 rejected under 35 U.S.C. 112, second paragraph, as being indefinite, in view of Examiner's Amendment detailed herein has been fully considered and is persuasive, as claims 1 and 13 as amended herein positively recites the step by which the condition that is material to patentability of absence of the chemical source of free radicals results.

This rejection has been **withdrawn**.

The closest prior art is Zara et al. (Tappi Journal, 1995, p131-134, of record)

Zara et al. discloses pulp cellulose fiber forms free radicals generated by Fenton's Reagent followed by addition of vinyl acetate, a functionalized olefin, as detailed in the Office Action mailed 11 Jun 2008.

Applicant's Remarks filed 14 Oct 2008 are persuasive that the record that Zara et al. does not disclose or teach the reaction in absence of the chemical source of free radicals.

Therefore the instant invention is not taught or fairly suggested by the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Claims 1, 4-6, 10, 13 and 15-19 are allowed in view of the Examiner's Amendment detailed herein.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan S. Lau whose telephone number is 571-270-3531. The examiner can normally be reached on Monday - Thursday, 9 am - 4 pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia Anna Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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